

actual boot images may range across the interconnected network system. Additionally, specific functional units of the boot image manager may exist across several devices and work in conjunction with one another.

- 5 Also, the various components of the boot image manager may be spread among the various interconnected devices. One device may contain the actual boot detection and/or initiation mechanisms, and another may contain the portion z that monitors the progress of the remote
10 machine booted with the new maintenance boot image.

As such, the system may direct the switching back and forth of maintenance/diagnostic and operational images. This allows for ranging effects on the networked system.

- 15 In one hypothetical situation, assume that some as yet unidentified virus has struck computer 14. The system administrator may not know the extent of the infection and/or damage accorded by the virus. Upon learning of the virus, the administrator can easily diagnose each machine, and possibly fix damage caused on it through
20 the remote interaction. As such, highly specialized boot images may be developed for other highly specialized diagnostic and/or maintenance functions, and these may be run easily on a timetable. Additionally, this functionality allows for ease in maintenance and
25 diagnostic functions across several networked machines.

- Figure 2 is a schematic block diagram of an embodiment of the system of Figure 1. The system contains an initiator, a monitoring interface, and a set of client
30 boot images. An action is specified on the target machine through the initiator. As noted, the initiator may take many forms, including a user interface, a remote diagnostic monitor, or a maintenance program.

In the case where the diagnostic alert software initiates the boot image swap, the diagnostic alert software may monitor the computational ~~health~~ of the client machines. When the ~~health~~ of a particular client target falls below a particular level, such as CPU SPEED memory speed, or other such parameter, it may automatically initiate the maintenance boot cycle as previously described. In this manner, the system may operate based on predetermined criteria of the computational ~~health~~ of the target machine

As noted previously, any or all the functional units of Figure 2 may exist within one system on the network connection. Alternatively, they may exist across several of the interconnected systems.

Figure 3 is a flow diagram of a possible operation of the system of claim 1. In a block 50, the system awaits initiation. In a block 52, the system is initiated to perform a maintenance or diagnostic function on a particular target machine. As noted before, the initiation may be by manual or by automatic monitoring means. In a block 54, the particular boot image is located for the target machine based upon the function to be performed with the target machine. In a block 56, the boot image is transferred to the target machine.

In a block 58, the target machine is rebooted, and the sensing software determines the status of the process in a block 60. In a block 62, the sensing software of the server has determined that the boot image has met its ending criteria, such as completing its maintenance task. In a block 64, the target machine directs the reboot of the target device under the original boot image.

Thus, architecture for dynamically switching operating systems for remote client maintenance and repair is described. It should be noted that such an architecture might be implemented with a computing device. The computing device may be a general purpose or specialized computing device. It should also be noted that the architecture might be implemented as software run on the computing device and within such components as magnetic media or computer memory associated with the computing device or within transmission media operating between computing devices.

In view of the above detailed description of the present invention and associated drawings, other modifications and variations will now become apparent to those skilled in the art. It should also be apparent that such other modifications and variations may be effected without departing from the spirit and scope of the present invention as set forth in the claims which follow.

What is claimed is: